

USAF Declass/Release Instructions On File

03 MAY 61 0541Z

SECRET

comms

DB

DIRECTOR

25X1A

DPD (1-2-3-4-5-6-7-8-9-10)

ROUTINE

S/C (11)

MHC

TOR: 03 MAY 61 0738Z

RISH

IN 06934

25X1A

25X1A 1472

25X1A

TACKLE OPS

1. ALTERNATOR FAILED ON ELINT TEST MISSION
SWITCH WAS TURNED ON WHEN ENGINE POWER REACHED 87 PERCENT.
THE ALTERNATOR FAILED WITHIN FIVE MINUTES.

2. AFTER REVIEWING SOME OF THE PAST HISTORY OF ALTERNATOR
FAILURES WITH THIS ENGINE BELIEVE MODIFICATION OF SYSTEM POSSIBLY
SHOULD BE CONSIDERED.

3. SUGGEST POSSIBLE CONVERSION FROM ENGINE DRIVEN ALTERNATOR
TO THE USE OF AN INVERTER. IN ADDITION TO A MORE RELIABLE AC
SYSTEM FOR ELINT OPERATION, SECOND INVERTER COULD BE USED FOR
BACK UP INSTRUMENT POWER IN THE EVENT OF MAIN INVERTER FAILURE.

4. AFTER CONSULTING WITH BELIEVE ADEQUATE DC POWER
IS AVAILABLE TO SUPPORT INVERTER POWER TO OPERATE ELINT SYSTEMS.

END OF MESSAGE

DOCUMENT NO. _____
NO CHANGE IN CLASS. ☐
IS DISCONTINUED
CLASS. CHANGED TO: TS S *02011*
NEXT REVIEW DATE: _____
AUTH: HR 70-2
DATE: *2/11/81* REVIEWER: 037169

SECRET

S E C R E T

25X1A

0961 (IN 09738)

PAGE -3-

OF A FREQUENCY REDUCTION AT REDUCED ENGINE SPEEDS FOR LONG RANGE MISSIONS. THE FREQUENCY RANGE IS 420 CPS AT T.O. TO 350 CPS AT 70,000 FEET AFTER SEVEN AND ONE HALF HOURS, WHEN USING CRUISE PROFILES AS OUTLINED IN THE FLIGHT HANDBOOK. ALTERNATE CRUISE PROFILE IS CONTAINED IN REF MSG.

83.25% max
RPM at Cruise

THE SUPPLIERS OF SYSTEMS III, VI, IV, VII, WERE CONTACTED AS TO THE EFFECTS OF OPERATING THE SYSTEMS AT 350 CPS.

SYSTEM III AND VI

25X1A OVERHEATING OF TRANSFORMERS IS THE CRITICAL ITEM AT 350 CPS.

INFORMS US THAT TRANSFORMERS CAPABLE OF OPERATING WITHIN THE RANGE OF 420-350 CPS ARE AVAILABLE AND CAPABLE OF BEING INSTALLED IN SYSTEMS III AND VI. THESE TRANSFORMERS CAN BE SHIPPED TO DETACHMENTS IN SIX WEEKS. ONE TRANSFORMER REQUIRED IN SYSTEM III AND FOUR TRANSFORMERS REQUIRED IN SYSTEM VI. THESE NEW TRANSFORMERS ARE SLIGHTLY HEAVIER THAN THE ORIGINAL. THE WEIGHT INCREASE IS APPROX FOUR POUNDS.

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SYSTEM VII

STATE THAT THERE IS NO PROBLEM OPERATING THIS SYSTEM AT 350 CPS. THE SYSTEM HAS OPERATED AT LOWER FREQUENCIES THAN 350 CPS, BUT THEY FELT THAT 350 CPS WAS THE LOWEST FREQUENCY THAT THEY WOULD GUARANTEE.

AMPEX [redacted] took require +5% at 300 → 800 cycles

SYSTEM IV

query amplex on 814 and blowers on 350 cycles

THE COOLING BLOWERS IN THIS SYSTEM ARE CRITICAL AT REDUCED FREQUENCIES. NO INFO IS AVAILABLE AS TO THE EFFECT OF LOW FREQUENCIES, HOWEVER, [redacted] INTEND TO TEST THIS SYSTEM AT 350 CPS TO DETERMINE THE EFFECT AT THE LOWER FREQUENCY, AND TO

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Approved For Release 2001/09/05 : CIA-RDP81B00880R000100220001-8

S E C R E T

0961 (IN 09738)

PAGE --4--

TAKE ANY CORRECTIVE ACTION NECESSARY TO INSURE PROPER OPERATION.
IT IS OUR UNDERSTANDING THAT [REDACTED] HAS REQUESTED THESE TESTS NOT 25X1A
BE CONDUCTED UNTIL ALFA LATER DATE. THE SYSTEM AS OUTLINED IN
PARA 3 ABOVE WILL ADD APPROX 40 POUNDS, INCLUDING ALTERNATOR, TO
THE BASIC AIRPLANE, OR 35 POUNDS LESS THAN THE EXISTING HYDRAULIC
DRIVEN ALTERNATOR SYSTEM. DUE TO THE LIGHTNESS AND SIMPLICITY OF
THE SYSTEM OUTLINED ABOVE IN PARA 3, WE REQUEST APPROVAL OF THIS
SYSTEM AS A PERMANENT INSTALLATION. REQUEST THAT [REDACTED] PERMIT
BLOWER TESTS ON SYSTEM IV TO PROCEED.

END OF MESSAGE

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1716Z 16 OCT 59

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C/D BOPS
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DIRECTOR

DPD (1,2,3,4,5,6,7,8,9,10)

S/C (11)

GG

TOR: 1855Z 16 OCT 59

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ATTN: [REDACTED]

1. REF TYPE OF U2C MISSION REQUIRED TO MAINTAIN A MINIMUM A.C. POWER FREQUENCY OF 380 CYCLES. FOR INSTANCE ON THE LEVEL AT 70,000 FT MISSION, THE POWER WOULD BE REDUCED TO HOLD 70,000 FT FOR APPROX 2 HOURS. AT THIS TIME ENGINE SPEED WOULD BE HELD CONSTANT TO INSURE CONSTANT ALTERNATOR FREQUENCY. THE AIRCRAFT WOULD THEN SLOWLY GAIN ALTITUDE AS FUEL WAS BURNED. THE RESULT OF THIS PROCEDURE WOULD REDUCE THE ENDURANCE BY 15 MIN. THAT IS, FROM 9 HRS TO 8 HRS 45 MIN.

2. THE DIRECT DRIVEN ALTERNATOR HAS AN ADJUSTABLE VOLTAGE RANGE OF 115 VOLTS TO 125 VOLTS. IT IS NORMALLY SET AT 115 VOLTS, 3 PHASE.

END OF MESSAGE

DOCUMENT TWO
FOURTH 10/1/59
1-10-10-10-10
CLASS CHANGED TO: TS S @ 2011
NEXT REVIEW DATE:
AUTH. HR 70-2
DATE 2/11/91 REVIEWER: 037169

SECRET

SECRET

2059Z 15 OCT 59

DIRECTOR

25X1A

DPD (1,2,3,4,5,6,7,8,9, 10)

S/C (11)

25X1A

SAD

TOR: 2059Z 15 OCT 59

25X1A

OPERA

25X1A

REF 3244 (OUT 53247)

1. SUGGEST THE USE OF A TRANSISTOR AIRBORNE INVERTER MAY BE A SOLUTION TO OUR A.C. GENERATOR PROBLEMS.

2. SUCH A DEVICE IS ADVERTISED IN THE JULY 31, 1959 ISSUE OF "ELECTRONICS", PAGE 123. THIS PARTICULAR UNIT ONLY RATED FOR 2 KVA OUTPUT, BUT IT IS NOTED THERE ARE OTHER MODELS AVAILABLE. PLEASE NOTE EXCEPTIONAL CLAIMS FOR FREQUENCY STABILITY.

END OF MESSAGE

DOCUMENT NO. _____
 NO CHANGE IN CLASS. ☐
 IF DECLASSIFIED
 CLASS. CHANGED TO: TS S 02071
 NEXT REVIEW DATE: _____
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SECRET